



amended Sequence Listing.txt

[Sequence Listing]

<110> CJ Corporation

<120> An alkaline lipase from *Vibrio metschnikovii* RH530 and a nucleotide sequence encoding the same

<160> 7

<170> KopatentIn 1.71

<210> 1

<211> 2578

<212> DNA

<213> *Vibrio metschnikovii* RH530

<400> 1
agcttgcaact ttatcagcca atacttgcac cggttaactcg gcgggcactt gtgcccagtg 60
gcggcggtcta cgtacttcag agattaaggc catgactagc gtttcatata aaatggtgtc 120
tcgccacgta ccttgaatgg cgatacgag ctggcggttg ccctcttgct tgaggatccc 180
gatttcaatt tgccgatcgg gttgaaaatg gaaatagcgt aatgactgta aaaaagtacg 240
attcaaatga ggtgcatgct gctctaaata aacaatgtcg gcatccgaaa agcgcaatga 300
agccaactga ttgatttctt ggcgtacttc ctctaataaa tcgctaattgt cttcatcact 360
gcgcacaatc aattcatagc gcacctcaac atccggatac aacgaatgaa cggcctgcat 420
catattgatt ttataggcat caagatccaa taaactgcgg ataaaaagag gagaaaatag 480
gcgatcgctc atgatgatgc catcctttcg ttcggtttca ttcagtcatt acgttagtaa 540
caacgtgttg ctaacttttg gcgaacaata aagtaccctt gtaagtttgt caacttttgt 600
gacaaaccta gtcagtcgtt atttggcctt attataatta tggatattga ggggtaagga 660
cgtagtcata acaacaatta cagtactctt gttatctgag ttatgtttgt caciaagtct 720
tatttacatt tgaccatcat catgcactta cctaaaataa gcccgttgtt tattagggaa 780
gccattatga ttgtcactat cgatatgatt tgtctgcgtc ttgcgccgaa atctatccag 840
gttttactgg tgaaacgctc taatccaaat cggccagatt gtggtaaatg ggcattgcct 900
ggcgggtagt tgtatgacga agatatgacc gctcatggtg gagaacctgt cgatgaggat 960
tttgatgcag cgagacgacg tatttgtcgg caaaaagtcc atacttatcc taattttatc 1020
agcgatccgc tggttgatgg caaccccaaa cgcgatccga atggttggag tgtcagtatt 1080
tccattacg ctttattaaa cccgtggaat gtcaaacaaa tagaagattt tggatcgcac 1140
cccagcgcg ctaattggtt tgatcttcat actttactca aagaagaaat gccgctggct 1200
tttgatcatg tcgcgcaaat tcagcatgcg tggcaaaaat tacgcgctgc ggttgaatac 1260
acatccgtgg tactattttc attagaaaaa gagtttttag tggcgatat tattgatgcc 1320
tacgcaaat ttggcgtcga agttaatcgc atgaccatta aacgccgctt gatcaatacc 1380

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ggggtgatcg tcagtaccaa taaaatggcc gcatcttgta aaggcaaagg agccaaacca	1440
gccaccgttt atcgtcttgc cagtcataaa gtcacatttt ttcaaacctg tttacgaggt	1500
taactgttcg aaaatcgtgt acagtaggtg atgatgtcaa ttgatgatag gtaggaagca	1560
atgcagatta ttcttgttca tggactctat atgcatggct tggtaatgca tccgcttagt	1620
catcgtctgc ataaattggg ttatcgtact caaaccatta gctacaactc actcgtctatc	1680
gatgatgagg ccatttttcg ccgccttgac cgatcgctca ctcatgcctc gcctaattgt	1740
ttagtcggac acagtttggg cggattgggt atcaaacgtt atctagaatc gcgcgcaccg	1800
tcctgtgaaa ccctctccca tgcgtcgcgc atcggctcac ctttgcaagg agcttccatt	1860
gtcaataaaa ttgagcaatt aggttttagg gtggcactag gtaattcagc agaatttggg	1920
ttaaaagaac acgacgacga atcccgtat ccacaaaaat caggcagtat tgcaggaacg	1980
ataccttttag ggctgcgcag ctttttactg cgcgatccac tggactccga tggtagcgtc	2040
acagtagaag aaacacaaaat agctggcatg acagatcata tcgcgatatc caccacttca	2100
tacgagaatg ctgtttaatc attccgttgc cgagcaaadc gaccactttc ttcgttatga	2160
ccgcttccgg cgctaaagcc gtttaaaact cagatgatag tgtacttcgt atcaaaccga	2220
tgggtgattga aaacataccc accattcatt cagaataaga cgttgccatc atcagagctt	2280
tcccatgcaa taaacaatcc gcgactttac gtctggccgc tttaactaaa ttggcaagt	2340
tctgccgcga tacgctgatg ccgcatagtt aagccagccc cgacacccgc caacacccgc	2400
tgacgcgccc tgacgggctt gtctgctccc ggcacccgct tacagacaag ctgtgaccgt	2460
ctccgggagc tgcattgtgc agagggtttc accgtcatca ccgaaacgcg cgagacgaaa	2520
gggcctcgtg atacgcctat ttttataggt taatgtcatg ataataatgg tttcttag	2578

<210> 2
 <211> 798
 <212> DNA
 <213> Vibrio metschnikovii RH530

<220>
 <221> CDS
 <222> (1)..(798)
 <223> valL1 gene

<400> 2	
atg ttt gtc aca aag tct tat tta cat ttg acc atc atc atg cac tta	48
Met Phe Val Thr Lys Ser Tyr Leu His Leu Thr Ile Ile Met His Leu	
1 5 10 15	
cct aaa ata agc ccg ttg ttt att agg gaa gcc att atg att gtc act	96
Pro Lys Ile Ser Pro Leu Phe Ile Arg Glu Ala Ile Met Ile Val Thr	
20 25 30	
atc gat atg att tgt ctg cgt ctt gcg ccg aaa tct atc cag gtt tta	144
Ile Asp Met Ile Cys Leu Arg Leu Ala Pro Lys Ser Ile Gln Val Leu	

amended Sequence Listing.txt

35	40	45	
ctg gtg aaa cgc tct aat cca aat cgg cca gat tgt ggt aaa tgg gca			192
Leu Val Lys Arg Ser Asn Pro Asn Arg Pro Asp Cys Gly Lys Trp Ala			
50	55	60	
ttg cct ggc ggg ata gtg tat gac gaa gat atg acc gct cat ggt gga			240
Leu Pro Gly Gly Ile Val Tyr Asp Glu Asp Met Thr Ala His Gly Gly			
65	70	75	80
gaa cct gtc gat gag gat ttt gat gca gcg aga cga cgt att tgt cgg			288
Glu Pro Val Asp Glu Asp Phe Asp Ala Ala Arg Arg Arg Ile Cys Arg			
85	90	95	
caa aaa gtc cat act tat cct aat ttt atc agc gat ccg ctg gtt gat			336
Gln Lys Val His Thr Tyr Pro Asn Phe Ile Ser Asp Pro Leu Val Asp			
100	105	110	
ggc aac ccc aaa cgc gat ccg aat ggt tgg agt gtc agt att tcc cat			384
Gly Asn Pro Lys Arg Asp Pro Asn Gly Trp Ser Val Ser Ile Ser His			
115	120	125	
tac gct tta tta aac ccg tgg aat gtc aaa caa ata gaa gat ttt ggt			432
Tyr Ala Leu Leu Asn Pro Trp Asn Val Lys Gln Ile Glu Asp Phe Gly			
130	135	140	
atc gac ccc gag cgc gct aat tgg ttt gat ctt cat act tta ctc aaa			480
Ile Asp Pro Glu Arg Ala Asn Trp Phe Asp Leu His Thr Leu Leu Lys			
145	150	155	160
gaa gaa atg ccg ctg gct ttt gat cat gtc gcg caa att cag cat gcg			528
Glu Glu Met Pro Leu Ala Phe Asp His Val Ala Gln Ile Gln His Ala			
165	170	175	
tgg caa aaa tta cgc gct gcg gtt gaa tac aca tcc gtg gta cta ttt			576
Trp Gln Lys Leu Arg Ala Ala Val Glu Tyr Thr Ser Val Val Leu Phe			
180	185	190	
tca tta gaa aaa gag ttt tta gtg gcg gat att att gat gcc tac gcc			624
Ser Leu Glu Lys Glu Phe Leu Val Ala Asp Ile Ile Asp Ala Tyr Ala			
195	200	205	
aaa ttt ggc gtc gaa gtt aat cgc atg acc att aaa cgc cgc ttg atc			672
Lys Phe Gly Val Glu Val Asn Arg Met Thr Ile Lys Arg Arg Leu Ile			
210	215	220	
aat acc ggg gtg atc gtc agt acc aat aaa atg gcc gca tct tgt aaa			720
Asn Thr Gly Val Ile Val Ser Thr Asn Lys Met Ala Ala Ser Cys Lys			
225	230	235	240
ggc aaa gga gcc aaa cca gcc acc gtt tat cgt ctt gcc agt cat gaa			768
Gly Lys Gly Ala Lys Pro Ala Thr Val Tyr Arg Leu Ala Ser His Glu			
245	250	255	
gtc acc tat ttt caa acc tgt tta cga ggt			798
Val Thr Tyr Phe Gln Thr Cys Leu Arg Gly			
260	265		

<210> 3
 <211> 266
 <212> PRT
 <213> Vibrio metschnikovii RH530

amended Sequence Listing.txt

<400> 3
Met Phe Val Thr Lys Ser Tyr Leu His Leu Thr Ile Ile Met His Leu
1 5 10 15
Pro Lys Ile Ser Pro Leu Phe Ile Arg Glu Ala Ile Met Ile Val Thr
20 25 30
Ile Asp Met Ile Cys Leu Arg Leu Ala Pro Lys Ser Ile Gln Val Leu
35 40 45
Leu Val Lys Arg Ser Asn Pro Asn Arg Pro Asp Cys Gly Lys Trp Ala
50 55 60
Leu Pro Gly Gly Ile Val Tyr Asp Glu Asp Met Thr Ala His Gly Gly
65 70 75 80
Glu Pro Val Asp Glu Asp Phe Asp Ala Ala Arg Arg Arg Ile Cys Arg
85 90 95
Gln Lys Val His Thr Tyr Pro Asn Phe Ile Ser Asp Pro Leu Val Asp
100 105 110
Gly Asn Pro Lys Arg Asp Pro Asn Gly Trp Ser Val Ser Ile Ser His
115 120 125
Tyr Ala Leu Leu Asn Pro Trp Asn Val Lys Gln Ile Glu Asp Phe Gly
130 135 140
Ile Asp Pro Glu Arg Ala Asn Trp Phe Asp Leu His Thr Leu Leu Lys
145 150 155 160
Glu Glu Met Pro Leu Ala Phe Asp His Val Ala Gln Ile Gln His Ala
165 170 175
Trp Gln Lys Leu Arg Ala Ala Val Glu Tyr Thr Ser Val Val Leu Phe
180 185 190
Ser Leu Glu Lys Glu Phe Leu Val Ala Asp Ile Ile Asp Ala Tyr Ala
195 200 205
Lys Phe Gly Val Glu Val Asn Arg Met Thr Ile Lys Arg Arg Leu Ile
210 215 220
Asn Thr Gly Val Ile Val Ser Thr Asn Lys Met Ala Ala Ser Cys Lys
225 230 235 240
Gly Lys Gly Ala Lys Pro Ala Thr Val Tyr Arg Leu Ala Ser His Glu
245 250 255
Val Thr Tyr Phe Gln Thr Cys Leu Arg Gly
260 265

<210> 4
<211> 555
<212> DNA
<213> Vibrio metschnikovii RH530
<220>
<221> CDS
<222> (1)..(555)
<223> valL2 gene

amended Sequence Listing.txt

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<400>      4
atg cag att att ctt gtt cat gga ctc tat atg cat ggc ttg gta atg      48
Met Gln Ile Ile Leu Val His Gly Leu Tyr Met His Gly Leu Val Met
  1              5              10              15

cat ccg ctt agt cat cgt ctg cat aaa ttg ggt tat cgt act caa acc      96
His Pro Leu Ser His Arg Leu His Lys Leu Gly Tyr Arg Thr Gln Thr
              20              25              30

att agc tac aac tca ctc gct atc gat gat gag gcc att ttt cgc cgc      144
Ile Ser Tyr Asn Ser Leu Ala Ile Asp Asp Glu Ala Ile Phe Arg Arg
              35              40              45

ctt gac cga tcg ctc act cat gcc tcg cct aat gct tta gtc gga cac      192
Leu Asp Arg Ser Leu Thr His Ala Ser Pro Asn Ala Leu Val Gly His
              50              55              60

agt ttg ggc gga ttg gtg atc aaa cgt tat cta gaa tcg cgc gca ccg      240
Ser Leu Gly Gly Leu Val Ile Lys Arg Tyr Leu Glu Ser Arg Ala Pro
  65              70              75              80

tcc tgt gaa acc ctc tcc cat gtc gtc gcc atc ggc tca cct ttg caa      288
Ser Cys Glu Thr Leu Ser His Val Val Ala Ile Gly Ser Pro Leu Gln
              85              90              95

gga gct tcc att gtc aat aaa att gag caa tta ggt tta ggg gtg gca      336
Gly Ala Ser Ile Val Asn Lys Ile Glu Gln Leu Gly Leu Gly Val Ala
              100              105              110

cta ggt aat tca gca gaa ttt ggg tta aaa gaa cac gac gac gaa tcc      384
Leu Gly Asn Ser Ala Glu Phe Gly Leu Lys Glu His Asp Asp Glu Ser
              115              120              125

cgc tat cca caa aaa tca ggc agt att gca gga acg ata cct tta ggg      432
Arg Tyr Pro Gln Lys Ser Gly Ser Ile Ala Gly Thr Ile Pro Leu Gly
              130              135              140

ctg cgc agc ctt tta ctg cgc gat cca ctg gac tcc gat ggt acc gtc      480
Leu Arg Ser Leu Leu Leu Arg Asp Pro Leu Asp Ser Asp Gly Thr Val
  145              150              155              160

aca gta gaa gaa acc aaa ata gct ggc atg aca gat cat atc gcg ata      528
Thr Val Glu Glu Thr Lys Ile Ala Gly Met Thr Asp His Ile Ala Ile
              165              170              175

tcc acc act tca tac gag aat gct gtt
Ser Thr Thr Ser Tyr Glu Asn Ala Val      555
              180              185

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<210>      5
<211>      185
<212>      PRT
<213>      Vibrio metschnikovii RH530

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<400>      5
Met Gln Ile Ile Leu Val His Gly Leu Tyr Met His Gly Leu Val Met
  1              5              10              15

His Pro Leu Ser His Arg Leu His Lys Leu Gly Tyr Arg Thr Gln Thr
              20              25              30

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amended Sequence Listing.txt

Ile Ser Tyr Asn Ser Leu Ala Ile Asp Asp Glu Ala Ile Phe Arg Arg
35 40 45
Leu Asp Arg Ser Leu Thr His Ala Ser Pro Asn Ala Leu Val Gly His
50 55 60
Ser Leu Gly Gly Leu Val Ile Lys Arg Tyr Leu Glu Ser Arg Ala Pro
65 70 75 80
Ser Cys Glu Thr Leu Ser His Val Val Ala Ile Gly Ser Pro Leu Gln
85 90 95
Gly Ala Ser Ile Val Asn Lys Ile Glu Gln Leu Gly Leu Gly Val Ala
100 105 110
Leu Gly Asn Ser Ala Glu Phe Gly Leu Lys Glu His Asp Asp Glu Ser
115 120 125
Arg Tyr Pro Gln Lys Ser Gly Ser Ile Ala Gly Thr Ile Pro Leu Gly
130 135 140
Leu Arg Ser Leu Leu Leu Arg Asp Pro Leu Asp Ser Asp Gly Thr Val
145 150 155 160
Thr Val Glu Glu Thr Lys Ile Ala Gly Met Thr Asp His Ile Ala Ile
165 170 175
Ser Thr Thr Ser Tyr Glu Asn Ala Val
180 185

<210> 6
<211> 117
<212> PRT
<213> Pseudomonas glumae

<400> 6
Val Ala Asn Leu Ser Gly Phe Gln Ser Asp Asp Gly Pro Asn Gly Arg
1 5 10 15
Gly Glu Gln Leu Leu Ala Tyr Val Lys Gln Val Leu Ala Thr Thr Gly
20 25 30
Ala Thr Lys Val Asn Leu Ile Gly His Ser Gln Gly Gly Leu Thr Ser
35 40 45
Arg Tyr Val Ala Ala Val Ala Pro Gln Leu Val Ala Ser Val Thr Thr
50 55 60
Ile Gly Thr Arg His Arg Gly Ser Glu Phe Ala Asp Phe Val Gln Asp
65 70 75 80
Val Leu Lys Thr Asp Pro Thr Gly Leu Ser Ser Thr Val Ile Ala Ala
85 90 95
Phe Val Asn Val Phe Gly Thr Leu Val Ser Ser Ser His Asn Thr Asp
100 105 110
Gln Asp Ala Leu Ala
115

amended Sequence Listing.txt

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<210>      7
<211>     117
<212>     PRT
<213>     Burkholderia cepacia

<400>      7
Val Ala Asn Leu Ser Gly Phe Gln Ser Asp Asp Gly Pro Asn Gly Arg
 1          5          10          15
Gly Glu Gln Leu Leu Ala Tyr Val Lys Gln Val Leu Ala Thr Thr Gly
          20          25          30
Ala Thr Lys Val Asn Leu Val Gly His Ser Gln Gly Gly Leu Ser Ser
          35          40          45
Arg Tyr Val Ala Ala Val Ala Pro Gln Leu Val Ala Ser Val Thr Thr
          50          55          60
Ile Gly Thr Arg His Arg Gly Ser Glu Phe Ala Asp Phe Val Gln Asp
 65          70          75          80
Val Leu Ala Tyr Asp Pro Thr Gly Leu Ser Ser Ser Val Ile Ala Ala
          85          90          95
Phe Val Asn Val Phe Gly Ile Leu Thr Ser Ser Ser His Asn Thr Asn
          100          105          110
Gln Asp Ala Leu Ala
          115

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